

ABSTRACT

An oxygen concentrator is utilized in combination with a compressor, preferably a radial compressor, to provide a highly enriched and compressed oxygen gas in a mobile container such as a gas cylinder. The combination and method of production provides for the facile preparation of an enriched source of oxygen for use by an ambulatory or wheelchair-confined patient. The oxygen concentrator utilizes two or more molecular sieves to provide a breathable gas of at least about 85% or 90% oxygen from atmospheric air. The oxygen-enriched gas can be stored in a buffer tank and prioritized so as to supply a patient with a proper amount and concentration of oxygen and secondarily to supply an amount of the enriched oxygen to a compressor. The radial compressor utilizes multiple stages to produce the highly compressed oxygen-enriched gas and has radially arranged pistons. The radial compressor is compact and lightweight.

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